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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/574,268

05/19/2000

Daniel H. Greene

D/A0038

7409

7590

03/26/2004

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EXAMINER

ROGERS, SCOTT A

ART UNIT

PAPER NUMBER

2626

DATE MAILED: 03/26/2004

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/574,268

Applicant(s)

GREENE ET AL.

Examiner

Scott A Rogers

Art Unit

2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,7-9 and 17 is/are rejected.
- 7) ☒ Claim(s) 3,5, 6,10-16 and 18-20 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4, 8, 9, and 17 rejected under 35 U.S.C. 103(a) as being unpatentable over Zdybel (US 5486686) in view of Sato (JP-08167852).

Referring to claims 1 & 17:

Zdybel discloses a method and apparatus for generating image data for rendering on a hardcopy document, comprising the steps and means for:

identifying a primary set of symbol data, the primary set of symbol data providing a first channel of human readable information to be rendered on the hardcopy document (col. 8, lines 30-38); and

computing a secondary set of encoding data from the primary set of symbol data; the secondary set of encoding data providing an assist channel of machine readable information to be rendered on the hardcopy document (col. 8, lines 39-50);

Zdybel does not further disclose:

partitioning the primary set of symbol data into a plurality of groups, the plurality of groups classifying symbol data according to how likely the symbol data will occur in the hardcopy document, and

developing the secondary set of encoding data by associating the symbol data with ones of the plurality of groups.

However, Sato discloses a group composition step (S1) which classifies the input characters into a number of hierarchical groups. A group appearance probability calculation step (S2) calculates the appearance probability of each group. A character appearance probability calculation step (S3) calculates the appearance probability of the input characters in these groups. In the computer translation of Sato, in the Detailed Description, see par. 36 on p. 4, and the first three sentences of par. 50 on p. 5 and in the Derwent abstract.

While Sato is providing a code for the input character based on the appearance probability calculated at the character appearance probability calculation step, it would still have been obvious to one of ordinary skill in the art to apply the character (human readable symbol data) grouping and probability techniques to select representative machine readable encoding data (glyphs) in Zdybel. Such a modification would allow optimal selection of glyphs based on the appearance probability of symbol data.

Referring to claim 2:

In Sato, an identifier would inherently be assigned to each of the plurality of groups that partition the primary set of symbol data.

Referring to claim 4:

In the above modification of Zdybel, the optimal selection of glyphs would inherently lead to selecting glyphs with a reduced or compressed amount or number of distinctive markings to thereby compress the encoding data (glyph encodings).

Referring to claim 8:

Zdybel discloses encoding the machine readable information with data glyphs (col. 8, lines 43-47).

Referring to claim 9:

Zdybel discloses the primary set of symbol data and the secondary set of encoding data rendered by a printer on the hardcopy document (col. 8, lines 33-38).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

There is no antecedent basis of "said scrambling". It appears this claim should depend from claim 5.

Remark

It is noted that while claim 6 may properly depend from claim 5, it appears applicant may have wanted this claim to depend from claim 4.

Allowable Subject Matter

Claims 3, 5, 6, 10-16, and 18-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 7 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Referring to claims 3 and 18, the prior art searched and of record neither anticipates nor suggests in the claimed combinations, a plurality of groups classifying the symbol data according to how likely symbol data in the primary set of symbol data are to be confused during processing of a scanned representation of the primary set of symbol data.

Referring to claims 5-7, the prior art searched and of record neither anticipates nor suggests in the claimed combinations, scrambling the compressed secondary set of encoding data.

Referring to claims 10-11 and 19, the prior art searched and of record neither anticipates nor suggests in the claimed combinations, using a graph with a node for each symbol, assigning each node a symbol occurrence likelihood value, and interconnected the nodes with arcs assigned values relating the likelihood of symbol data being confused during processing.

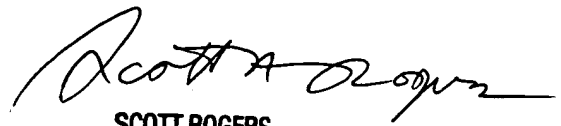
Referring to claims 12-16 and 20, the prior art searched and of record neither anticipates nor suggests in the claimed combinations, decoding by identifying a shortest path of a product graph.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott A Rogers by telephone at 703-305-4726.

The official fax number for Technology Center 2600 where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to TC 2600 Customer Service at 703-306-0377.

22 March 2004


SCOTT ROGERS
PRIMARY EXAMINER